NHB–3 INSTALLATION INSTRUCTIONS

AMENDMENT RECORD SHEET

Amendment Number	Date	Inserted By	Comments

INSTALLATION INSTRUCTIONS

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Installation Instructions

This installation guide has been prepared to provide the basic information.necessary to install this car kit. This guide is not intended to be definitive, because different types and models of vehicles will require different installation work. The information given is for general guidance only.

The terms of warranty demand that this car kit be installed by an experienced installer and only genuine Nokia parts are used. An end user should never attempt to install this car kit without professional assistance as the installation requires special tools and knowledge.

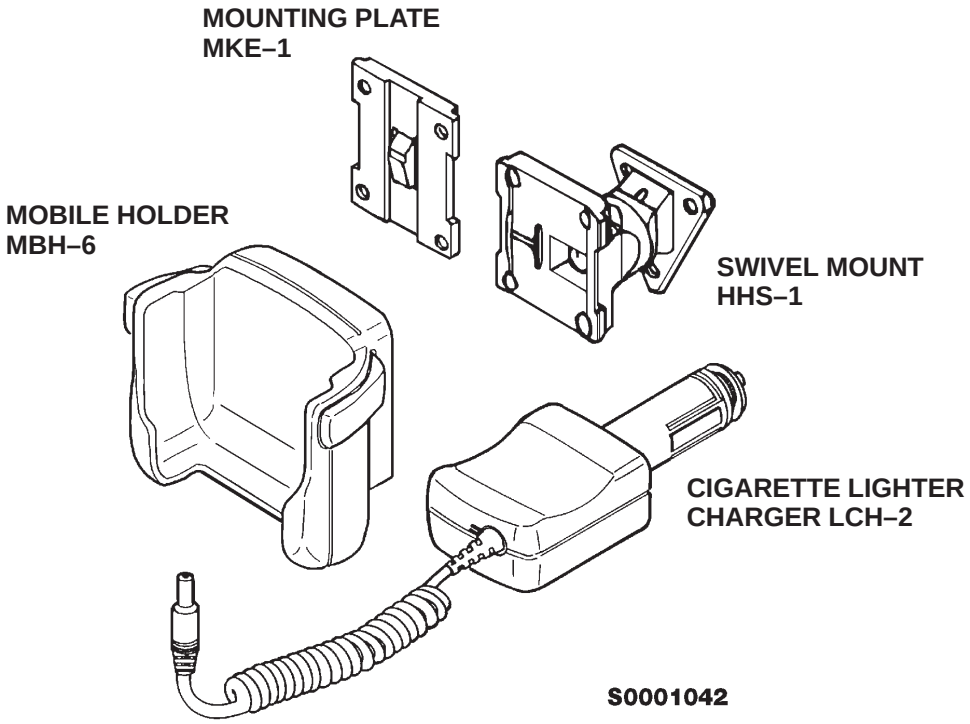
Please refer to the telephone's User's Manual and Accessory Guide for instructions on the telephone's operation, care and maintenance, including important safety information.

Note: Read the warnings below before beginning the installation procedure.

WARNINGS

- **ENSURE THAT THE VEHICLE'S BATTERY IS DISCONNECTED BEFORE YOU START THE INSTALLATION PROCEDURE, AND THAT IT REMAINS DISCONNECTED DURING THE PROCEDURE.**
- **DO NOT SMOKE OR USE OPEN FLAMES WHEN WORKING NEAR THE VEHICLE'S FUEL SYSTEM.**
- **ENSURE THAT THE VEHICLE'S ELECTRICAL CABLES, HYDRAULIC LINES, FUEL LINES, AND SAFETY EQUIPMENT, ARE NOT DAMAGED DURING INSTALLATION.**
- **ENSURE THAT NORMAL CONTROL AND OPERATION OF THE VEHICLE IS NOT IMPAIRED BY THE INSTALLATION, PARTICULARLY THE BRAKES, AND STEERING.**
- **ELECTRONIC AND OTHER SOPHISTICATED SYSTEMS (eg SPEED CONTROL, ABS ANTI–LOCK BRAKE, FUEL INJECTION, NAVIGATION, AND AIR–BAG SYSTEMS) ARE RELATIVELY IMMUNE TO MALFUNCTION CAUSED BY NEARBY RADIO TRANSMISSIONS. HOWEVER, SHOULD YOU EXPERIENCE FALSE OPERATION OF THESE SYSTEMS OR ARE IN ANY DOUBT WHATSOEVER AS TO THEIR FUNCTIONALITY, PLEASE CONSULT THE VEHICLE'S DEALER.**
- **THE CAR KIT IS SUITABLE FOR USE ONLY IN VEHICLES WITH A 11..32 V NEGATIVE GROUNDING. USE ON OTHER SUPPLY VOLATAGES OR ALTERNATIVE POLARITY WILL DAMAGE THE EQUIPMENT.**
- **THE PHONES SHOULD NOT BE LEFT SWITCHED ON FOR EXTENDED PERIODS WITHOUT RUNNING THE VEHICLE'S ENGINE. FAILURE TO COMPLY COULD DRAIN THE VEHICLE'S BATTERY.**

Light Car Kit Installation



Item:	Remarks:	Type:
Mobile holder		MBH–6
Cigarette lighter charger		LCH–2
Mounting plate	(w/16 screws)	MKE–1
Swivel mount	(w/6 screws)	HHS–1

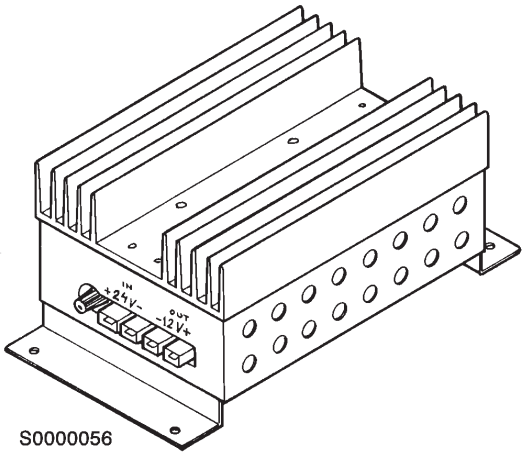
Power Distribution

The main supply for car kit is obtained from the vehicle battery, the supply voltage may vary between 9 and 16 volts. Both the positive voltage and the grounding are taken directly from the battery, unless the vehicle has other main voltage than + 12 V. This minimizes the risk of disturbances from or to the telephone as well as guarantees loss–free power distribution.

The connections to the battery should be carried out with care. Both the negative and positive leads have 4 A fuses, which must always be used. If a fuse blows, replace it only with the same type and size fuse.

The power cables should be routed so that possible sources of disturbances are avoided. Also ABS–sencors and like should be avoided as far as possible.

If the vehicle has + 24 V electrical system (trucks, all–terrain vehicles , etc.), an external voltage reducer must be used. Since the properties of the reducer are critical, it is recommended to use a reducer supplied by the manufacturer. This reducer has good protections against transients produced by vehicles electrical system and it is also capable to maintain stabile output during rapid changes in load current.



Some vehicles have a main switch (e.g. gas trucks), which separates the vehicles chassis from the negative lead of the battery. Under no circumstances do not pass this switch, i.e. the grounding of the reducer must be taken from the body of the vehicle, NOT directly from the battery.

DO NOT INSTALL REDUCER:

- **TO ENGINE COMPARTMENT**
- **WHERE THERE ISN'T ADEQUATE AMOUNT OF AIR FOR COOLING (UNDER THE CARPET, ETC.)**
- **WHERE THERE IS RISK OF MOISTURE (CONDENSATED WATER, ETC.)**

Positioning

The best guide for positioning the units is your own experience, skills and common sense. However, some aspects requiring special attention will be discussed here.

The positioning of the holder unit is the most important factor when trying to achieve the most comfortable usage for the user. The location of the holder unit should be selected so that the visibility of the phone display is good in every lighting condition, but not so that the drivers attention gets too easily stolen from driving itself. The holder unit should be located so that the driver can easily reach the keypad. Under no circumstances should the holder unit obstruct the driver from operating car controls (i.e. handbrake, etc.).

If handset is used like a phone & a holder unit, the handset's place should be located according same rules as holder unit is located. If using handset, the location of the phone is not so critical. In this case location of the phone is determined by the connecting cables and the the obtainable of the phone.

Junction box can also be installed in hidden location, since usually there is no need to detach cables in normal operation. Remember allthough that the box doesn't like moisture or mechanical pressure.

Handsfree microphone can usually be installed in the sunvisor of the driver, or in the A–pillar. The main idea is to get the microphone quite close to the drivers mouth, and also to attach the microphone in surface that doesn't carry the mechanical vibrations of the car body, since these will increase the background noise when using handsfree.

The loudspeaker isn't so sensitive for vibrations, thus it can be located more freely. The main idea is to optimize two requirements: The driver should hear the signal from the loudspeaker without any special efforts, but the the attenuation between loudspeaker and microphone should be as high as possible, i.e. they must ”look” in other directions in order to minimize the acoustic feedback.

The system cable routing isn't usually critical; however it should not be routed next to electronic ignition systems or ABS braking systems wires or boxes to prevent interference to important automotive electrical components. Take also care not to run the cable so that it's gets under any mechanical stress e.g. under seats or against sharp edges of car chassis.

The customer is paying for the installation and expects to get a very good return for his money. Therefore installers first duty is to discuss all the locations with him/her. Sometimes the customers may have starnge ideas of the locations. Then it is your job to point out politely why these solutions won't work.